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Cover Page Footnote

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Knowledge of nurses working in maternity units before and after the implementation of structured teaching program on obstetrical emergencies in selected hospitals, Guntur District, Andhra Pradesh

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Abstract

Introduction: The experience of pregnancy is individualistic and an important experience for a woman. The process of child birth is viewed as a rebirth of the woman, because of the very fact that the period of pregnancy, child birth and puerperium, which show a very normal course till that time, may suddenly turn in to life threatening situations called obstetrical emergencies. These conditions endanger the life of both the mother and the baby. Hence, it is the bound duty of all the obstetrical care providers to give due concentration in identifying the emergency conditions and safe guarding the life of the mother and her unborn baby. **Methodology:** Quasi experimental design was chosen for conducting the study. Study sample comprised of 60 nurses working in maternity units selected by using purposive sampling technique. A structured questionnaire was developed and used to collect the data from the subjects. Structured teaching program was implemented to improve the knowledge of the staff nurses. **Results:** Findings of the study revealed that 47 (78%) of the subjects had inadequate knowledge with regard to obstetrical emergencies. The mean post-test knowledge scores of the subjects ($\bar{x}=29.9$) was higher than the mean pre-test knowledge scores ($\bar{x}=18.9$). The obtained 't' value ($t=13.5$) was significant at 0.05 level of significance. This indicated that the teaching program had a significant impact in improving the knowledge of the nurses with regards to obstetrical emergencies. Association was not significant between age, education, experience, previous knowledge on obstetrical emergencies and the post-test mean knowledge scores of the subjects. **Conclusion:** It was concluded that the knowledge of nurses on obstetrical emergencies was inadequate. The structured teaching program helped them to improve their knowledge.

Key words: Maternity units, nurses, obstetrical emergencies, structured teaching program

Introduction

The term pregnancy is a comprehensive word which includes the period of antenatal, intranatal and postnatal. Each of these periods are very sensitive and very important. Women are prone to develop complications at any period throughout the course of pregnancy. No one can anticipate what goes wrong and when (Perry,

Cashion, & Lowdermilk, 2007). Some complications are chronic and some are acute. Most of these acute complications are labelled as obstetrical emergencies and need keen identification, observation and rectification in time to preserve the life of the mother and her child (Obstetrical emergencies, Wikipedia, the free encyclopaedia). Worldwide approximately 15% of the expected births result in life threatening complications either during pregnancy, delivery or during postpartum period. Most common obstetrical emergencies are uterine rupture, cord prolapse, amniotic fluid embolism and obstetrical shock (Otolorin, Gomez, Currie, Thapa, & Dao, 2015).

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Disruption in the continuity of the uterine wall, any time beyond 28 weeks of gestation is called uterine rupture (Maternal health nursing, 2008). Obstetrical shock is a state of circulatory inadequacy with poor tissue perfusion resulting in generalized cellular hypoxia. Common types are hypovolemic shock and septic shock. Hypovolemic shock is due to loss of circulatory fluid volume in conditions like obstetric haemorrhage, ruptured uterus, severe vomiting, obstetric surgery and placenta previa. Septic shock is due to severe generalized infection caused by *Escheria coli* in conditions like septic abortion, post-partum endometritis and chorioamnionitis (Dutta, 2013). Even today, the maternal mortality rates in India are as high as (239/100,000 live births) compared to the maternal mortality rates in developed countries (12/100,000 live births) (Bangal, Borawake & Chandaliya, 2012). Seventy five percent of maternal deaths are due to the complications arising during antenatal and intranatal periods like septic abortions, ectopic pregnancy, hypertensive disorders of pregnancy, haemorrhage during antenatal and postnatal period and puerperal sepsis. Twenty-five percent of maternal deaths are due to pregnancies complicated with anaemia, heart disease, diabetes, thyroid problems and viral hepatitis. Eighty percent of all these maternal deaths are preventable even in developing countries with the simple effective actions at affordable cost (Catherin, Anushila & Goud, 2014).

Some of the reasons for high maternal deaths specially in India are childhood marriages, high parity, low socio economic status, illiteracy, ignorance about the available health facilities, high prevalence of anaemia, negligence in taking proper antenatal check-ups, food taboos, lack of proper transportation to reach health care facilities and poor knowledge about the pregnancy related complications and their impact on the mother's life (Nour, 2008).

The key to improve maternal health is the provision of better antenatal care services, continued risk assessment, provision of emergency obstetrical care at the door step of antenatal women, strict implementation of family planning services, continuing education to all the people involved in maternal care including obstetricians, midwives and other ancillary staff, involving the mahila mandals, religious leaders

and key persons in community and safe motherhood committees to motivate the women to seek essential obstetric care, developing women education programs and above all, sincere involvement of the obstetric care staff with utmost motivation (Chaturvedi, Chaturvedi, Upadhyay & De Costa, 2014).

Chaturvedi, Upadhyay and De Costa, (2014) suggested a need to relook at both pre service and in service education and training for nurse midwives. Education, training, supportive supervision are essential to improve the health outcomes. Maternal health is nation's wealth. We should improve the maternal health by providing quality obstetric care during pregnancy. Employing teaching program regarding obstetrical emergencies helps the maternity staff in decision making and skill to deal with pregnant mothers.

Objectives of the study

1. To assess the knowledge of nurses working in maternity units before and after the implementation of structured teaching program on obstetrical emergencies.
2. To find the association between the selected variables and the post-test knowledge scores of nurses working in maternity units.

Materials and methods

Research design, setting and sample for the study

The study was conducted by using Quasi-experimental design. Study sample comprised of 60 nurses working in maternity units of 1,050 bedded private general hospital (30 subjects) and 1,038 bedded government general hospital (30 subjects) in Guntur district, Andhra Pradesh. The subjects for sample were selected through purposive sampling technique.

Structured teaching program

Structured teaching program was developed by the investigator. The total content was organized under four topics. Topic-1 dealt with the uterine rupture and its management; Topic-2 was on cord prolapse and its management; Topic-3 was on amniotic fluid embolism and its management; and Topic-4 dealt with the obstetrical shock and its management. The teaching program was validated by both medical and nursing experts in the field of obstetrics and gynaecology.

Structured teaching program was given by lecture cum discussion method.

Tool for data collection

A structured questionnaire was developed and used for collecting the data. The tool had two sections- Section-A contained questions on demographic variables like age, education, experience and previous knowledge of the subjects on obstetrical emergencies; section-B consisted of 40 multiple choice questions on obstetrical emergencies.

Method of data collection

Data was collected personally by the investigator during March 2016 with due permissions from the concerned authorities and consent from the staff nurses working in maternity units. The subjects were gathered and given pre-test. The researcher had taken the class on obstetrical emergencies by using the structured teaching program after the pre-test. The post-test was conducted one week after the implementation of the structured teaching program. The data was analysed by using the descriptive and inferential statistics.

Results

Table 1:

Variable Wise Distribution of Nurses Working in Maternity Units

N=60		
Variables	Frequency	Percentage
Age		
Below 20 years	0	-
21-25 years	8	13.33
26-30 years	24	40
31 and above	28	46.67
Education		
GNM	52	86.67
BSc Nursing	8	13.33
Experience		
0-5 years	12	20
5-10 years	20	33.33
Above 10 years	28	46.67
Knowledge on obstetrical emergencies		
Have previous knowledge	55	91.67
Do not have previous knowledge	5	8.33

The above data shows that majority of the study subjects belonged to 31 years of age and above (28 i.e. 46.67%); with GNM qualification (52 i.e. 86.67%), with 10 years of experience (28 i.e. 46.67%) and had

previous knowledge on obstetrical emergencies by 91.67% (55). Most of them had inadequate knowledge in areas like early diagnosis and prompt management.

Table 2:

Pre-Test And Post-Test Knowledge Levels of Nurses Working In Maternity Units

Knowledge	N=60			
	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Inadequate knowledge (Scores 50% and below 50%)	47	78	0	0
Moderately adequate knowledge (Score between 51-75%)	13	22	36	60
Adequate knowledge (Scores above 75%)	0	0	24	40

The data in table 2 shows that 78% (47) of nurses had inadequate knowledge on early diagnosis and management of obstetrical emergencies, 22% (13) had moderately adequate knowledge and none of the nurses had adequate knowledge in pre-test, whereas in post-test, 60% (36) of nurses had moderately adequate knowledge, 40% (24) had adequate knowledge and none of the nurses had inadequate knowledge.

Table 3:

Mean, Standard Deviation and Paired 't' Test Values on Knowledge of Nurses Working in Maternity Units With Regard to Obstetrical Emergencies Before and After the Implementation of Structured Teaching Program

Item	Pre-test		Paired 't' test
	Post-test		
	Mean	Mean	
Knowledge	18.9±1.78	29.9±2.36	13.5*

Note: * indicates significance at .05 level

From the Table 3, it is evident that before implementation of structured teaching program, the obtained mean scores of knowledge on obstetrical emergencies in pre-test was much less (\bar{x} = 18.9, S.D = 1.78) compared to the mean scores of the post-test (\bar{x} = 29.9, S.D = 2.36). This indicated that there was marked increase in the level of knowledge of

staff nurses working in maternity units with regard to obstetrical emergencies. The obtained t value was 13.5 and is significant at .05 level of significance. This indicated that the knowledge of nurses had increased significantly after the implementation of structured teaching program.

Table 4:
Association Between Post-Test Knowledge Scores With Selected Variables

N=60		
Variables	Chi-Square Values	Degrees of Freedom(df)
Age	2.05 ^{NS}	6
Education	1.86 ^{NS}	2
Experience	0.7 ^{NS}	4
Previous knowledge on obstetrical emergencies	0.0244 ^{NS}	2

The non-significant chi-square values of the Table 4 indicated that the knowledge level of nurses after the implementation of structured teaching program was not associated with their age, education, experience and previous knowledge on obstetrical emergencies.

Discussion

This study was conducted with the objective of evaluating the effectiveness of structured teaching program on knowledge among staff nurses working in maternity units with regards to obstetrical emergencies. Quantitative one group pre-test and post-test design was adopted to conduct the study. The findings with regard to the effectiveness of structured teaching program were statistically analyzed for significance at .05 level of significance.

The demographic characteristics of the sample of this study when compared with samples of other similar studies dealing with knowledge on obstetrical emergencies among staff nurses working in maternity units were found to be in agreement with most of such studies. In this study 20 (33.33%) staff nurses had 5-10 years of experience. Staff nurses working in maternity units in the present study had improved knowledge levels after the structured teaching program. The increased mean scores of the present study was 11 and *S.D* was 0.58, the ‘*t*’ value was significant ($t = 13.7$). Similarly, a study conducted by Crofts JF, et al. (2007), reported that the experience of midwives was

above five years and there was significant increase in the knowledge on obstetrical emergency management scores by 20.6 points (9.5% CI:18.1-23%) following the training on obstetrical emergencies. There was no significant effect of location of training ($p = .785$) or the inclusion of team work training ($p = .965$).

Conclusion

Based on the study results, it was concluded that majority of the nurses had inadequate knowledge in the pre-test and none of them had adequate knowledge. Structured teaching program had increased their knowledge to moderately adequate and adequate level. As a care giver, midwife plays a major role in managing the obstetrical emergencies with alertness, knowledge, competence and skills using judgement and critical thinking. Obstetricians and midwives require a combination of manual and communication skills, fast emergency management and decision making skills. These are essential to improve the health outcome. Hence, there is a need for organizing continuous nursing education program to nurses working in maternity units on obstetrical emergencies, periodically.

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